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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/762,278	01/23/2004	Paul C. Brantner	48469-00008	4672
49837	7590	07/12/2005		
S2IPLAW, PLLC 300 MASSACHUSETTS AVENUE, NW SUITE 1101 WASHINGTON, DC 20001-2692			EXAMINER BUDD, MARK OSBORNE	
			ART UNIT	PAPER NUMBER
			2834	

DATE MAILED: 07/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/762,278

Applicant(s)

BRANTNER, PAUL C.

Examiner

Mark Budd

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 June 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-57 is/are pending in the application.
- 4a) Of the above claim(s) 28-57 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 7-27 is/are rejected.
- 7) ☒ Claim(s) 5 and 6 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 January 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

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The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-4, 11, 12, 13, 19, 24 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morrow in view of Kolm.

D'Antonio figure 7 teaches a piezoelectric battery charging circuit including a rectifier and a storage capacitor as well as a switch. D'Antonio does not teach using more than one piezoelectric generating element, and only use a single layer of piezo material. Kolm (figs. 1-3) teaches using multiple piezo elements to harvest the input energy and therefore provide a greater output. Multiple layers of piezo material (figs. 4-6) is also advocated to increase output. Thus for at least these reasons it would have been obvious to one of ordinary skill in the art to provide D'Antonio with multi-layered, multi element inputs.

Claims 7-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Merhar in view of D'Antonio and combined with Kolm

Merhar (fig. 1) teaches piezoelectric sensors (fig. 1) whose output is connected to a switch (FET 17) which acts as a sensor for the input to the piezo elements. Merhar does not rectify the piezo outputs, and does not provide multiple layers of piezoelectric material. However, Morrow teaches it is common to rectify the output of piezoelectric sensors as single polarity outputs are often easier to process. Kolm teaches using multiple layers of piezo materials increases output voltage. Thus, for at least the

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reasons noted above, it would have been obvious to one of ordinary skill in the art to rectify the output of Merhar and provide multiple layers of piezo material for each sensor. Substitution of one specific known switch for another (e.g. FET, Bipolar etc) is within the skill expected of the routineer.

Claims 14-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over D'Antonio in view of Kolm as applied to claim1 above, and further in view of Triplett or Mellon.

These claims add that the input stimulus is gravity and a wheel. Triplett (figs. 1-5) and Mellon (fig. 1) both explicitly teach using a rotating wheel and gravity as a piezoelectric signal generator. To use D'Angelos or kolms sensors with a known system configuration would have been obvious to one of ordinary skill in the art as it is only selecting from among known uses for a known device (piezo generator).

Claims 20, 21, 26 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over D'Antonio in view of Kolm as applied to claim1 above, and further in view of Bohnert or Bloumer.

These claims add various output means. The voltage detector and current detector of Bohner and Bloomer teach it is known to use these means as an output for piezoelectric sensors. Since selection from among known uses for a known transducer is within the skill expected of the routineer, use of these outputs with D'Angelo or Kolm would have been obvious to one of ordinary skill in the art.

Claims 22 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over D'Antonio in view of Kolm as applied to claim1 above, and further in view of Bundy.

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These claims add that the input stimulus is sonic energy. Bundy teaches it is known to use Sonic energy as an input to be detected by piezoelectric transducers. As noted above, selection from among known inputs for a known transducer structure would have been obvious to one of ordinary skill in the art.

Further cited of interest are Kimura, Focht, Umeda, Epstein and Wilmer.

Claims 5 and 6 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The drawings are objected to for not showing the subject matter of claims 5 and 6. Correction is required.

Applicants transversal of the restriction requirement is noted. However, since the search areas for the two groups are not the same, there would be an additional burden on the examiner to examine both groups.

Budd/ds

07/01/05


MARK U. BUDD
PRIMARY EXAMINER
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